

Form PTO-1449  
(REV. 2-32)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
8389-013SERIAL NO.  
09/664,705**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

APPLICANT

**Shachar Nadler**

(Use several sheets if necessary)

FILING DATE

September 19, 2000

GROUP

2877

**U.S. PATENT DOCUMENTS**

EXAMINER'S INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPLICABLE
RN	3,517,190	06/23/70	R. W. Astheimer			
RN	3,697,185	10/10/72	Kassel et al.			
RAN	3,796,887	03/12/74	Vincent et al.			
RAY	3,838,925	10/01/74	Marks			
RAN	4,126,396	11/21/78	Hartmann et al.			
RAN	4,240,751	12/23/80	Linnecke et al.			
RN	4,297,035	10/1981	Bjorklund			
RAN	4,426,640	01/17/84	Beaconsall et al.			
RAN	4,432,649	02/21/84	Krause			
RN	4,459,024	07/1984	Gergely			

RECEIVED  
FEB - 1 2001  
TECHNOLOGY CENTER 2800**FOREIGN PATENT DOCUMENTS**

	DOCUMENT	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
RN	25 21 934 B2	03/1978	Germany				✓
RN	41 10 095 A1	10/1992	Germany				✓
RN	57-22538	02/1982	Japan				✓
RN	58-213237	12/1983	Japan				✓

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, etc.)

RN	H. Tai, K. Yamamoto, M. Uchida, S. Osawa, and K. Uehara, "Long-Distance Simultaneous Detection of Methane and Acetylene by Using Diode Lasers Coupled with Optical Fibers", IEEE Photonics Technology Letters, Vol. 4, No. 7, pp. 804-807, 1992.
RN	G.I. Mackay, S.D. Nadler, D.R. Karecki, H.I. Schiff, J.W. Butler, C.A Gierczak and G. Jesion, "Dynamometer Intercomparison of Automobile Exhaust Gas CO/CO <sub>2</sub> Ratios and Temperature Between On-Board Measurements and a Remote Sensing Near Infrared Diode Laser System", Unisearch Interim Phase 1b Report to the Coordinating Research Council of Atlanta, GA and the National Renewable Energy Laboratory, Golden, CO, contract VE-8-2 August 1994.

EXAMINER:

RAT Remberger

DATE CONSIDERED:

4 May 2001

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<i>RM</i>	4,489,239	12/1984	Grant et al.			
<i>RM</i>	4,516,858	05/14/85	Gelbwachs			
<i>RM</i>	4,518,861	05/1985	Krempl et al.			
<i>RM</i>	4,560,873	12/24/85	McGowan et al.			
<i>RM</i>	4,594,511	06/1986	Cooper et al.			
<i>RM</i>	4,622,974	11/18/86	Coleman et al.			
<i>RM</i>	4,637,729	01/20/87	Schoch			
<i>RM</i>	4,652,756	03/24/87	Ryan et al.			
<i>RM</i>	4,681,086	07/21/87	Van Patten			
<i>RM</i>	4,684,258	08/1987	Webster			
<i>RM</i>	4,749,276	06/07/88	Bragg et al.			
<i>RM</i>	4,755,054	07/05/88	Ferree			
<i>RM</i>	4,765,736	08/1988	Gallagher et al.			
<i>RM</i>	4,820,045	04/1989	Boisde et al.			
<i>RM</i>	4,892,383	01/09/90	Klainer et al.			

**FOREIGN PATENT DOCUMENTS**

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						YES	NO
<i>RM</i>	2 245 058	12/1991	United Kingdom				
<i>RM</i>	89/03028	04/1989	WIPO				
<i>RM</i>	93/15566	08/1993	WIPO				

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)**

<i>RM</i>	H.I. Schiff, J. Bechara, S.D. Nadler and G.I. Mackay, "A Near Infrared Diode Laser System for Remote Measurement of Automobile Exhaust Gas Concentrations and Temperature: Prototype Instrument Description and Laboratory Studies", Unisearch Interim Report 1 to the Coordinating Research Council of Atlanta, GA and the National Renewable Energy Laboratory, Golden, CO, contract VE-8-2 Oct. 1993.
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EXAMINER:

*RA Rosenberg*

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Rn	4,934,816	06/1990	Silver et al.			
Rr	4,968,887	11/06/90	Wong			
Rn	4,989,942	02/05/91	Koenigsberg et al.			
Rn	5,002,391	03/26/91	Wolfrum et al.			
Rn	5,015,843	05/14/91	Seitz et al.			
Rn	5,026,991	06/1991	Goldstein			
Rn	5,047,639	09/10/91	Wong			
Rn	5,070,246	12/03/91	Durham et al.			
Rn	5,075,793	12/24/91	Schiffner			
Rn	5,131,741	07/1992	Zweben			
Rn	5,131,746	07/21/92	O'Rourke et al.			
Rn	5,153,672	10/06/92	Globig et al.			
Rn	5,168,156	12/01/92	Fischer et al.			
Rn	5,173,749	12/22/92	Tell et al.			
Rn	5,202,570	04/13/93	Tanaka et al.			
Rn	5,210,702	05/11/93	Bishop et al.			
Rn	5,241,177	08/1993	Albrecht			

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						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, etc.)

Rn	G.I. Mackay, S.D. Nadler, D.R. Karecki, H.I. Schiff, J.W. Butler, C.A. Gierczak and G. Jesion, "Test Track Intercomparison of Automobile Exhaust Gas CO/CO <sub>2</sub> Ratios Between On-Board Measurements and a Remote Sensing Near Infrared Diode Laser System", Unisearch Interim Phase Ic Report to the Coordinating Research Council of Atlanta, GA and the National Renewable Energy Laboratory, Golden, CO, contract VE-8-2 November 1994.
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EXAMINER: *Raymond*

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<i>R</i>	5,255,073	10/1993	Wallin et al.			
<i>Rn</i>	5,267,019	11/30/93	Whittaker			
<i>R</i>	5,275,553	01/04/94	Frish et al.			
<i>Rn</i>	5,301,014	04/1994	Koch			
<i>R</i>	5,317,156	05/31/94	Cooper et al.			
<i>R</i>	5,319,199	06/07/94	Stedman et al.			
<i>Rn</i>	5,339,155	08/16/94	Partridge et al.			
<i>R</i>	5,343,043	08/30/94	Johnson			
<i>Rn</i>	5,373,160	12/13/94	Taylor			
<i>Rn</i>	5,381,010	01/10/95	Gordon			
<i>Rn</i>	5,412,487	05/02/95	Malczewski			
<i>Rn</i>	5,427,920	06/27/95	Berndt et al.			
<i>Rn</i>	5,436,718	07/25/95	Fernandes et al.			

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**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, etc.)

<i>RA</i>	H.I. Schiff, S.D. Nadler and G.I. Mackay, "The Lasair - New Remote Sensing Instruments Based on Near Infrared Diode Lasers", Optical Sensing for Environmental and Process Monitoring, McLean, Virginia, November 7-10, 1994.
<i>R</i>	J. Bechara, D.R. Karecki, G.I. Mackay, H.I. Schiff, and S.D. Nadler, "Chemical Analysis of Gases with Tunable Diode Lasers", Reprinted from: New Technologies for Low Emissions Vehicle Testing (SP-1014), International Congress & Exposition, Detroit, Michigan, February 28 - March 3, 1994.

EXAMINER:

*RA | [Signature]*

DATE CONSIDERED:

*4 May 2001*

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**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, etc.)

<i>RN</i>	H. Riris, C.B. Carlisle, L. W. Carr, De. E. Cooper, R. U. Martinelli, and R.J. Menna, Oct. 20, 1994, Design of an open path near-infrared diode laser sensor: application to oxygen, water, and carbon dioxide vapor detection, 1994 Optical Society of America, Applied Optics, vol. 33, No. 30.
<i>RN</i>	Henrik Ahlberg, Stefan Lundqvist, Robert Tell and Torbjörn Andersson, 1994, Laser spectroscopy for in situ ammonia monitoring, LASER SPECTROSCOPY Spectroscopy Europe 1994.
<i>RN</i>	M. Pilar Arroyo, Timothy P. Birbeck, Douglas S. Baer, and Ronald K. Hanson, "Dual Diode-Laser Fiber-Optic Diagnostic for Water-Vapor Measurements", Optics Letters, July 15, 1994/Vol. 19, No. 14.

EXAMINER:

*RAJ Rensh*

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**FOREIGN PATENT DOCUMENTS**

CONFIDENTIAL DOCUMENTS								
		DOCUMENT	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, etc.)

RN	H.I. Schiff, G.I. Mackay, and J. Bechara, "The Use of Tunable Diode Laser Absorption Spectroscopy for Atmospheric Measurements", Chapter 5, <i>Air Monitoring by Spectroscopic Techniques</i> , Edited by Markus W. Sigrist, Chemical Analysis Series, Vol. 127, pages 239-333.
RN	G.I. Mackay, David R. Karecki, and H.I. Schiff, "Application of Tunable Diode Laser Spectroscopy to the Real-Time Analysis of Engine Oil Economy", Reprinted from <i>Environmental Science &amp; Technology</i> , Vol. 26, 1992.
RN	G.I. Mackay, D.R. Karecki, H.I. Schiff, "Tunable Diode Laser Systems for Trace Gas Monitoring", SPIE vol. 1433 <i>Measurement of Atmospheric Gases</i> (1991).
RN	H.I. Schiff, "Ground Based Measurements of Atmospheric Gases by Spectroscopic Methods", <i>Ber. Bunsenges, Phys. Chem.</i> 96 (1992) No. 3.
RN	H.I. Schiff, G.I. Mackay, and J.W. Butler, "Comparison of Automobile Exhaust Measurements Between a Remote Sensing Near Infrared Diode Laser System and an On-Board Fourier Transform Infrared Spectrometer", June 1995.
RN	Hideto Kanamori, Shigehiro Takashima, and Katsumi Sakurai, "Near - Infrared Diode Laser Spectrometer with Frequency Calibration using Internal Second Harmonics", <i>Applied Optics</i> , September 20, 1991, Vol. 30, No. 27.
RN	H.I. Schiff, "The Measurement of Trace Gases Using Ground-Based Instrumentation", Blackwell Scientific Publications, 1994, pp. 105-119.

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